




sea grant: impact on a nation

**A testimonial by
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**STATEMENT PRESENTED BEFORE SUBCOMMITTEE ON
OCEANOGRAPHY**

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My name is John Calhoun. I work for Texas A&M University where I am employed as Vice President for Academic Affairs. It is a pleasure to be here this morning to speak on behalf of the legislation for continuance of the Sea Grant College and Program Act of 1966 (Public Law-89-688). My remarks are given as a personal matter and do not reflect an official position of my employer.

I have been associated directly with the Sea Grant Program in several ways. When it was first enacted and placed under the National Science Foundation, I served as a member of the National Sea Grant Advisory Committee. That position was vacated when I became the active director of the Sea Grant College Program at Texas A&M University, a position that I held until last November.

My involvement in general oceanographic affairs and marine resources activities, however, has been much broader than the Sea Grant Program. As Science Advisor to the Secretary of Interior in the period 1963 to 1965, many of my activities related to oceanography and marine resources questions. It was also my privilege to be acquainted with the federal program for ocean matters during the period since 1967 in my capacity as chairman of the Committee of Oceanography and the subsequent Ocean Affairs Board of the National Academy of Sciences. During that same period, I also served as a member of the Advisory Panel for the International Decade of Ocean Exploration in the National Science Foundation. My other ocean-related activities have included a year's membership on the National Advisory Committee for the Oceans and Atmosphere just completed, membership on President Nixon's Task Force on Oceanography, and chairman of the two special presidential panels that were set up to consider the Santa Barbara incident and advise on continued drilling.

During the past ten years, therefore, I have maintained a close awareness of federal programs related to oceanography and marine resources. I wish to say that in my opinion the most important and successful piece of legislation related to marine resources that Congress has passed is the Sea Grant College and Program Act of 1966. No other program in the federal establishment has had such an impact, nor continues to have such potential, for advancing this Nation's capabilities in the marine field. In my opinion the program should be continued, and I strongly endorse enactment of the legislation that would do so. There is very little need to change the legislation because I think the original version was well thought out and has worked quite successfully. The definition of marine resources is all-inclusive. The authorization is also sufficiently broad to allow the Sea Grant Program Office to undertake coastal zone research and similar activities that have been proposed for special legislation. The matching provisions make it certain that the program will have local participation.

The single point on which I might suggest change is to provide the National Sea Grant Program Office with the flexibility for initiating projects on behalf of the total national program without requiring local matching. From time to time there are activities that the National Sea Grant Program Office might like to pursue for the overall welfare of the program. These projects might be done through an organization or institution outside the federal structure. As the Sea Grant Program Act is now administered, the institution undertaking the activity would have to find local funds to match the federal project. This seems to be an obstacle that ought not to exist.

The inherent advantages and successes of the Sea Grant Program in my opinion stem from three factors. In the first place, the Program has provided a stimulus to identify and to bring together a consideration of all aspects of the marine resources field. No other legislation and no other program in the federal establishment has done this. There exists no general unified subject matter known as marine resources. There exists no general library on the subject. All that existed prior to the Sea Grant Program were individual activities relating to many separate facets of marine resources. For the first time, the Sea Grant Program has provided a mechanism for bringing together consideration of all these separate elements.

The second reason for the success of this program and its continued need is that it deals with the people who are in or wish to serve the field. This element involves not only the students who are attracted into the field as a new and exciting career, but also those who are at work in marine areas and who need information to make their activity more effective. Again, no other program in the federal structure has undertaken activities that will involve the young and that will enhance the base of manpower so vital to the future of marine resources activities of the Nation. I understand that about 1500 individuals are active participants in Sea Grant. It is estimated that these people have touched the lives of more than a million others by providing answers to important marine problems.

The third reason why I think this program has been so vital and successful is the fact that it is built upon the principle of shared and cooperative involvement upon relationships of need to action, and upon the creation of projects that find their way into everyday activity of local governments, industry, state agencies, and others who are involved in marine resources activity. The choice of the universities as the vehicle for doing this was quite appropriate and very much in keeping with the total success this Nation has had with its public land grant universities in agriculture and other fields.

It is my belief that up to this time Sea Grant has succeeded even beyond the dreams of those who designed it. To illustrate this point, one can compare the Sea Grant Program with an iceberg. The tip is obvious to those who are near enough to see it, yet the real strength and power of it can only be perceived by those who know and understand fully its nature.

It is not my purpose here to talk about the tip of the iceberg. I am sure that you have been given details of Sea Grant's impact. Sea Grant programs are active in 60 institutions and organizations in practically all of our coastal states and several inland ones.

My purpose is to talk about the underlying structure of this activity. I can do this by stressing three points for your consideration. These points, which relate to Sea Grant's importance to the states, are

- 1) **Commitment** to a federal-state partnership to wisely use and to develop marine resources;
- 2) **Involvement** of local units—state agencies, city and county organizations, and individuals in formulating the needs and priorities for Sea Grant work;
- 3) **Construction** of a nationwide network of marine affairs units whose combined accomplishments far exceed the individual efforts.

First, the commitment is based on a mandate to identify and to serve the needs of a state or region. Second, the commitment is implemented by sharing of costs. Recipients of Sea Grant support must match the federal funds acquired on a one-for-two basis. A tangible dollar commitment must be made.

For a state university such as Texas A&M this means that we must identify matching funds when we apply for federal support. This requires coordinated planning with other programs in order to achieve sound, relevant activities that satisfy the state funding purposes as well as those of the federal government. The Sea Grant institution is in one sense a broker bringing together the mutual needs of the state and the Nation in the marine resources field. In another sense, the Sea Grant institution is the catalyst to serve these needs because in the planning process the institution will have searched out talent and resources to carry on the work responsive to the needs.

The partnership, or the commitment, then has three elements—the federal government, the state, and the institution. Each enters the arrangement in good faith and with mutual objectives. The reenforcement of this commitment is the matching fund requirement. I believe this requirement has presented Sea Grant with one of its greatest strengths.

The commitment process is dependent upon the second point that needs to be emphasized—involvement. For the state to commit to a plan of work such as Sea Grant represents, there must be active involvement of many people in the planning and operation process. This is one of the unique aspects of Sea Grant that sets it apart from traditional funding programs to universities.

Involvement of a large number of agencies and individuals assures state legislatures that matching funds will be directed toward worthwhile projects—toward a felt need—and toward areas that are regarded as high priority.

At Texas A&M University, for example, our State Legislature has provided a portion of the matching dollars for the past three years. This takes the form of a special item in the University's budget request. In addition, some state agencies plan their budgets in such a way that funds may be available to match Sea Grant work that is undertaken jointly. Associations and private firms also are sources of matching funds.

Let me cite some examples of the involvement process of Sea Grant from the program at Texas A&M University. They are typical, I am certain, of what Sea Grant institutions can claim across the nation.

In Texas we have had Sea Grant—supported work underway for four and a half years, amounting to an expenditure of roughly \$4,000,000 from federal funds. An additional \$1,880,000 has been obtained from state appropriations, local communities, and private groups.

In 1969-70 we initiated a series of workshops in education, ports and waterways, coastal recreation, fisheries and seafood technology, coastal legal matters, marine industry, and commerce. Each of these workshops involved key figures from the coastal region, state agencies, and industry. Their purpose was to identify the problems, the interrelationships, and the needs for each of these areas. People throughout the coastal zone began to see Sea Grant as the vehicle through which to attack problems or to achieve some unity of purpose. The highlight of these workshops came when Sea Grant and the Governor's Office cosponsored the state's first conference to outline the state's goals in the coastal zone and the sea. A publication resulted with the title "Goals for Texas in the Coastal Zone and the Sea."

At about the same time a newly created Division of Planning Coordination in the Governor's Office was feeling its way toward future activities, and the Sea Grant Program allied informally with them to assist in formulating a Coastal

Resources Management Program funded by the Legislature from 1969 through 1972. Not only did Sea Grant cooperate in this activity, but it also received matching funds from the program to conduct research projects in support of specific program interests.

In 1969 the Texas House of Representatives formed an Interim Committee on Oceanography and in 1971 continued its activity through an Interim Committee on Coastal and Marine Resources. A member of the Sea Grant staff was enrolled as a personal consultant to these committees, participating in the public hearings and assisting in reporting the committee deliberations. Sea Grant assisted the first committee in printing and distributing its report. The first committee recommended, and subsequently the Legislature approved, the establishment in Texas of a Council on Marine-Related Affairs, to which I have been appointed by the Governor.

The second committee was instrumental in formulating and obtaining legislative acceptance of a bill to establish a Texas Offshore Terminal Commission to guide future activities in Texas relative to deepwater terminals. This was a matter that was brought to life as a major issue in 1969 by the Sea Grant Program at Texas A&M University. We were fortunate to find interested people in the South Texas Regional Export Expansion Council who obtained funding from port authorities in Texas to match Sea Grant funds that were used to establish and to define the requirements for a deepwater terminal in Texas.

The major point to make is this: In the course of all the activities involving the Legislature, State agencies, and private groups, key people from our Sea Grant Program were always involved and often provided the only bridge between divided interests. Although this type of role often goes unheralded in a public sense, it has been recognized in Texas. There is general acceptance of the proposition that Sea Grant, more than any other program, has been an active, relevant, driving force in the evolution of marine-related programs and activities in Texas. For those of us on the scene it is very satisfying. In my opinion, without the Sea Grant Program there would have been very little of the upsurge of interests and concern for marine matters that has characterized the State in recent years.

Another specific working relationship is with the General Land Office, the state agency that administers all state-owned lands. That office seeks to develop a better understanding of a relatively unspoiled state area, Matagorda Bay. They have developed a comprehensive study plan in which Sea Grant is participating, with matching funds from the Land Office. The Land Commissioner, incidentally, is a member of the Texas Sea Grant Advisory Council and is an outspoken advocate of the program.

Not all our work is with State agencies. For example, the City of Galveston embarked upon an analysis of its situation and potential as a model coastal city. They made arrangements for making contributions so that a team of Sea Grant experts

from Texas A&M University could work with them to develop an action plan. Recommendations of that report are already reflected in actions being taken by Galveston city officials.

In Brazoria County, Texas, the Sea Grant Program has joined with a number of groups to develop and demonstrate shrimp grow-out systems. The thousands of acres of marshlands along the Texas coast, natural habitats for shrimp in their life cycle, are ideal locations for commercial mariculture ventures. Texaco, Inc. provided the land for constructing 20 half-acre ponds. Additional financial support amounting to more than half of the total costs came from the Brazoria County Mosquito Control District, the Brazoria County Commissioners, Ralston-Purina, and Dow Chemical Company. Without all these efforts being brought together, the experiments could not have gone forward. In related work, Sea Grant is working with two power companies—Houston Lighting and Power and Central Power and Light—to investigate the cooling ponds of electric power facilities for mariculture purposes.

Another example from another marine sector relates to work with an association. There are more than 300 marinas in Texas. Before our Sea Grant personnel provided a service to marina owners and operators, there was no coordinating mechanism for this group. Now there is a Marina Association of Texas with the secretariat vested initially in Texas A&M University advisory services. Furthermore, the Association has already given to the University three fellowships for students to participate in the graduate program in Marine Resources Management, also developed and implemented through the Sea Grant Program.

The Texas Parks and Wildlife Department has a mission that includes creating an increased awareness and interest in seafoods as part of the regular household menu. Through the Sea Grant Program, marketing people at Texas A&M University had already embarked on studies involving a small food store chain. So Parks and Wildlife came into the effort, and they now provide the matching funds for a marketing program directed initially at food stores through the state. What we realized is that people inland from the coast, being generally unfamiliar with most types of fish, will not be attracted to fish products unless the stores treat these products in special ways to make them appealing to the customer. This joint Sea Grant/State agency undertaking has been so successful that the Sea Grant personnel involved have been called to California, Florida, and points in between to explain their program to retail food store associations and to chain store executives. The program has caught the attention of the National Marine Fisheries Service, which has used our people in several briefings.

The Sea Grant Program in Texas is not just Sea Grant at Texas A&M University. Every year funds have been allocated to other institutions for research, education, and advisory services. The list includes the Galveston Community College, Del Mar College in Corpus Christi, the Texas State Technical

Institute in Waco, the Bates College of Law at the University of Houston, and Lamar University in Beaumont. Some \$566,000 has gone to these other institutions, which are required to produce the necessary matching funds.

Overall we count more than 25 State agencies and governmental entities with whom we have close working relationships. We have supported work at eight other colleges and universities; and we have received the support of more than 30 private groups. We estimate that we have provided assistance in some way to more than 25,000 individuals. A compilation of the agencies, industries, and other organizations that have been related in some way to the Texas A&M University Sea Grant operation since it began in 1968 is attached to this testimony.

The final point for emphasis has to do with the *building of a network* whose arteries reach into virtually every coastal community of this nation and whose actions contribute to all aspects of marine affairs—from urban renewal in port and harbor areas to educating fishermen, from marine pharmaceuticals and biomedical research to tax and insurance workshops.

The institutions and agencies supported by the National Sea Grant Office have exhibited a fundamental willingness to share ideas and findings so that the results of their individual efforts reinforce one another. This synergistic action has led to a number of important spin-offs. Some of these can be traced directly to Sea Grant stimulation. The emphasis on the coastal zone, for example, has been an integral part of each state's Sea Grant effort for the past four or five years. The combination of these emphases has had a large impact on the recent Coastal Zone Management legislation. In fact, in my opinion, the nation has a coastal zone program because of the composite Sea Grant activity.

Similarly, the total Sea Grant work in aquaculture has led to the creation of a special task force to determine the nation's goals and priorities in this area. The Advisory Services components of Sea Grant institutions have made such a contribution to the understanding and well-being of those who derive a living from the sea that a National Marine Advisory Service has resulted. The Sea Grant Program people provided an invaluable input to Dr. (Robert M.) White of NOAA in the planning of the Marine Advisory Service for NOAA.

The credit for stimulating such cooperation among the various states must go in part to the types of teams that Sea Grant has fostered in each of its major programs and in part to the leadership that has been provided by the National Sea Grant Program Office. It is within the scope of the national office to provide certain services to its state partners in order to bring together people, ideas, and programs to benefit the national good.

It is because of this needed stimulation and direction that the new Sea Grant legislation should contain the authority for the national program to undertake some services

on behalf of the total effort on a non-matching basis. And although I have previously testified that the matching requirement for state programs is important and should remain a part of the Act, I will point out that it is important to conduct certain activities that will benefit not only a single state but also the whole marine field. These, I believe, should be permitted on a non-matching basis.

For Texas I can say that Sea Grant is important—to dozens of State agencies, legislative commissions, and industries and to thousands of individuals who have learned that the Sea Grant Program is providing relevant answers to problems of the coastal zone and near-shore. It is, of course, important also to Texas A&M University. It has provided another challenge for us to serve the people of the State and Nation. We are proud to have been chosen to be a catalyst for the State in this important field of work. Again, let me say that I endorse the continuation of the program. I think its loss would be a severe blow to the budding development of marine resources in this nation.

**LIST OF AGENCIES AND ORGANIZATIONS
INVOLVED IN PLANNING AND/OR IMPLEMENTING
THE TEXAS A&M UNIVERSITY
SEA GRANT COLLEGE PROGRAM**

State and Local Agencies

House Interim Committee on Oceanography
House Interim Committee on Coastal and Marine Resources
Interagency Council on Natural Resources and Environment
Division of Planning Coordination, Governor's Office
Coastal Resources Management Program
Texas Land Commission Office
Texas Parks and Wildlife Department
Texas Water Development Board
Texas Water Quality Board
Texas Water Rights Commission
Texas Council on Marine-Related Affairs
Texas Offshore Terminal Commission
Texas Tourist Development Agency
Texas Educational Agency
Regional Education Service Center, Corpus Christi
City of Galveston
Galveston Independent School District
Governor's Advisory Committee on Marine Resources
Brazoria County Commissioner's Court
Pleasure Island Commission
Southeast Texas Regional Planning Committee

Neuces County Navigation District
Galveston Wharves
Port of Port Arthur
Port of Corpus Christi
Orange County Navigation District

Other Educational Institutions

Galveston College
Del Mar College
Texas State Technical Institute
Brazosport College
Bates College of Law
Lamar University
University of Idaho
Texas A. & I. University

Associations and Foundations

Texas Marina Association
Texas Retail Grocers Association
Texas Tourist Council
Texas Restaurant Association
Link Foundation
Moody Foundation

Industry

Texas Superport Study Corporation
Sea Dock Incorporated
Southwest Research Institute
Dow Chemical Company
Central Power and Light
Ralston Purina
Texaco
Par-Tex Construction Company
Handy Andy Stores
H. E. B. Food Stores
Tom Thumb Stores
Del Camp Food Stores
Electrofilm, Inc.
Well Reconnaissance Incorporated
Driesser-Atlas
Oceanonics
Chicago Bridge and Iron
Sun Oil Company
Chevron Oil Company
Gulf Oil Company
Mobil Oil Company
Phillips Oil Company
Superior Oil Company
Exxon Oil Company
Marathon Oil Company
Liberty Corporation